

REMARKS

Claims 3-12 are pending in the application. Claims 3, 4, 8, and 11 are allowed.

Claims 5-7, 10 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by Chow, et al. (hereinafter Chow).

Claim 13 has been newly added. Claim 13 is based on the original claim 2. No new matter is entered.

Claim 12 has been amended herein to clarify the claimed subject matter. Applicant's features are supported by the specification, for example page 14, lines 16 to 20, it is described that "protecting route information" is preset in "protecting route table (114)" by "network management system (10)" in advance or before occurrence of failure and also on page 3, line 7-8 as "pre-plan type." No new matter is entered.

Claim Rejections

In the Office Action the examiner makes a suggestion on the bottom of page 3 that the protecting route information should be better defined in the claim.

The Office Action appears to rely on the interpretation that each node in Chow contains present protection route information that instructs each node what to do upon encountering a fault.

Applicant's claim 12 states that a corresponding "protecting route" is obtained and "protecting route information" is designed and preset for each node before occurrence of failure.

In contrast to applicant's claimed invention, Chow discloses that "protecting route" is searched and determined when a failure occurs. This is different from applicant's claimed invention, and is also made clear from that the operational flow chart of Fig. 14 a of Chow starts at 132 "DETECT FIBER CUT".

In applicant's claimed invention, for example, "protecting route information table (114)" of Fig 6 is shown as the table in which the "protecting route information" is preset. As described in applicant's specification page 14, lines 16 to 20, "protecting route information" is preset in "protecting route table (114)" by "network management system (10)" in advance or before occurrence of failure.

Also as pointed out above on page 3, line 7-8 of the specification describes a "pre-plan type" in the phrase of "when designing a protecting route of a pre-plan type failure restoration system."

As claimed applicant's invention relates to a designing method of "protecting route information" which is preset before occurrence of "failure".

However, Chow only discloses a "protecting route" searched and determined when a failure occurs and shows an operational flow chart, Fig. 14 a, starting at 132 "DETECT FIBER CUT". This is different from applicant's claimed features.

Applicant's claimed invention includes advantages that "protecting route information" is set at each node storing "failure location" and information identifying the "protecting route" which is associated with the "failure location." Accordingly, in applicant's claimed invention it would be possible to switch to a "protecting route" responding to a "failure" immediately at the occurrence of the "failure," based on the "protecting route information." This is shown in Fig. 13 and page 22, line 26 through page 23, line 17 of the present application.

In contrast, in the system of Chow, "protecting route" is calculated by using a predetermined logic "two prong approach" whenever the failure occurs, so that such information is not necessary to be kept, as indicating correspondence between "failure location" and "protecting route," but Chow fails to indicate any specific description how to construct such the

feature. Chow's "Black message" and "Gray message" teaches, the protection route searching and selection is performed dynamically during the operation of the network "upon detection of a cut link" (Abstract).

Accordingly, applicant's claimed invention includes the protection route information set in each of the plurality of nodes is preset before the operation phase, and thus, each node need not search or select any protection route when a failure is detected in Chow. Therefore faster switching to the protection route can be exercised. As pointed out above this is explained in detail on page 15: 4 though page 20: 26 as well as Figs. 4, 7 and 8.

Additionally applicant's claimed invention provides for, when searching and obtaining a protection route, the protection route is formed with a link capable of sharing a spare communication capacity even when a failure occurs at the same time as a different failure occurs.

This is possible because the information is preset.

In this manner, spare communication capacity of each link in a protection route for failure is fixedly assigned so as to share the spare communication capacity among protection routes as much as possible, and thus, a total of spare communication capacity required for entirety of a communication network can be reduced.

Chow fail to disclose such a method of presetting a protection route before operation of the communication network so as to share a spare communication capacity even in the case that different failures occur at the same time.


Generally and as disclosed in Chow, a usable spare band (spare communication capacity) is not assigned to protection routes for each failure in advance, and a spare band is not prepared for any specific failure, but is shared for every failure in such methods of managing spare band obtained during operation of a network.

Accordingly, Claim 12 and its associated dependent claims should not be anticipated by Chow. Applicant's dependent claims include at least the distinguishing features of claim 12 and additional distinguishing features.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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